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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,517	02/10/2004	Woo-Hyuk Choi	8733.345.10-US	8692
30827	7590	11/29/2005	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP			NGUYEN, DUNG T	
1900 K STREET, NW			ART UNIT	
WASHINGTON, DC 20006			PAPER NUMBER	
			2871	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/774,517

Applicant(s)

CHOI, WOO-HYUK

Examiner

Dung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's amendment dated 09/14/2005 has been received and entered. Claims 11-21 are remain pending in the application.

Terminal Disclaimer

1. The terminal disclaimer filed on 09/14/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the US Patent No. 6,627,470 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 11-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sah, US Patent No. 6,104,042, in view of Kitazawa et al., US Patent No. 5,920,082, as stated in the previous office action.

Regarding the above claims, Sah disclose a method of forming a thin film transistor substrate (figure 8D) comprising the step of forming:

- . a substrate (40);
- . a gate electrode (42);

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- . a gate insulating layer (44);
- . an active layer (46);
- . a source electrode (48a/48b/48c on left side);
- . a drain electrode (48a/48b/48c on right side) having a bent shape and having a first side facing the source electrode and a second side;
- . a protection layer (52) covers the source electrode only and the first side of the drain electrode;
- . a pixel electrode (54) overlapped and contacted with the second side of the drain electrode and gate insulating.

Sah does not disclose the step of forming the pixel electrode by using a back exposure. Kitazawa et al. disclose a pixel electrode can be formed by using a back exposure (figure 3, col. 5, lines 17-30 30). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ a pixel electrode by using a back exposure as shown by Kitazawa et al. in order to reduce and self alignment of the pixel electrode to signal lines further improve an aperture ratio of an LCD device (col. 6, lines 10-13).

4. Claims 16-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sah, US Patent No. 6,104,042, in view of Kitazawa et al., US Patent No. 5,920,082, further in view of Applicant's admitted prior art (APA), figures 2 and 4, as stated in the previous office action.

Regarding claims 5-6, 8-9, 26-27 and 29-30, the modification to Sah discloses the claimed invention as described above except for a gate pad, a gate pad electrode as well as a data pad and a data pad electrode. APA's figures 2 and 4 do disclose that a gate/data line (21/24) having a gate/data pad (21/23) electrically contacting a gate/data pad electrode (62/60) through a

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gate/data pad hole (see figure 4) as claimed. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the Lee et al. device having a gate/data pad connected to gate/data line as shown by APA because it is a common practice in the LCD art in order to connect an LCD device to external circuit through gate/data pad electrode.

Response to Arguments

5. Applicant's arguments filed 09/14/2005 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Kitazawa et al. clearly disclose the step of forming the pixel electrode by the back exposure method (figure 3, col. 5, lines 17-30 30). In addition, the modification to the Sah's device would not be changed the Sah's device structure. Therefore, one skilled in the art would be able to modify the Sah's device by using such back exposure method to form the pixel electrode.

In addition, Applicant states that one of ordinary skill would recognize the pixel electrode 54 of Sah can not be formed over layer 42a. The Examiner is not convinced by this argument

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since the modification to the Sah's device is just using a different method of forming a pixel electrode to form a pixel electrode. In other words, the Sah's pixel electrode material would be formed over such layer 42a, and then the pixel electrode would be formed by using the Kitazawa et al. back exposure method as claimed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

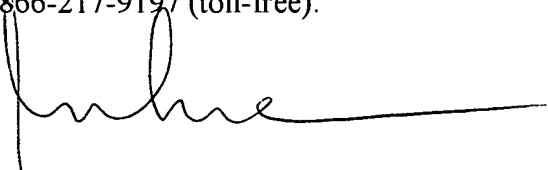
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN
11/23/2005



Dung Nguyen
Primary Examiner
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